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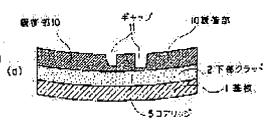
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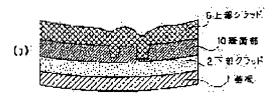
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(54) OPTICAL WAVEGUIDE

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent generation of cracks due to mismatching of hardening and shrinking between a polymer optical material and a substrate in an optical waveguide using a polymer optical material. SOLUTION: A first polymer optical film to be used as a lower clad 2 is formed on a substrate 1, and a second polymer optical film is formed on the first polymer optical film. Gaps 11 are formed by etching or the like in the second polymer optical film and the residual part is used as a core ridge 5 and a buffer 10. With the presence of the buffer 10, release of the compressive stress in the substrate 1 is suppressed to the minimum to prevent decrease in the warpage of the substrate 1, and therefore, to prevent generation of cracks. Further a third





polymer optical film to be used as an upper clad 6 is formed on the core ridge 5 and the buffer 10 to manufacture the optical waveguide. The gap 11 is formed to have the minimum width

which can prevent leaking of light from the core ridge 5 to the buffer 10.

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